

New Species of *Lopidea* (Miridae, Hemip.)*

By HARRY H. KNIGHT, Ithaca, New York.

The writer here takes occasion to name and distinguish certain species of *Lopidea*, which are found in the eastern United States. In his studies on the structure of the male genitalia the writer has found characters which will give some structural basis for distinguishing the genus *Lopidea*. The broad and more or less flattened left genital clasper with bifurcated tip (figs. 1-3, 5), appears to be characteristic of all the species including *media* Say, the type of the genus. On the other hand, the structure of the right clasper gives a wide range of variation and thus good specific characters are obtained.

The genus *Lomatopleura* Reuter has supposedly been separated on the basis of the incrassate form of the second antennal segment. On that basis the writer has found it difficult to place one or two species in either *Lopidea* or *Lomatopleura* where the antennae are only slightly incrassate. The antennal character is further rendered more doubtful by the fact that each species in both genera has antennae of slightly different thickness. The thickness of the antennae has been found useful to separate the females of species which are otherwise very similar in coloration and structure. Thus far the writer has noted no difference in the thickness of the antennae between the sexes of a given species.

The species *caesar*, type of the genus *Lomatopleura* Reuter, has the same type of left genital clasper (figs. 1-3, 5) as that found in *Lopidea media* and other species of the genus as *robiniae*, *confluens* and *cuneata*. If *instabilis* were only the type of the genus *Lomatopleura* it might well stand on the basis of genital characters but unfortunately this is not the case. At present the writer prefers to consider all the species that have been placed under both genera as belonging to the genus *Lopidea* Uhler (1872).

*Contribution from the Department of Entomology of Cornell University.

The figures of the male genital claspers are all drawn to the same scale.

Lopidea heidemanni new species. (Fig. 1.)

In general appearance, most closely resembling *media*, but larger and usually with more fuscous; certain color phases of the female sometimes difficult to distinguish from the females of *media*.

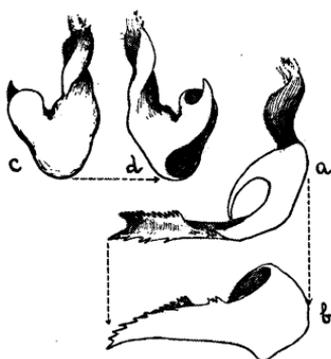


FIG. 1.

Fig. 1.—*Lopidea heidemanni*, male genital claspers—*a* right clasper, dorsal aspect.
b right clasper, caudal aspect.
c left clasper, ventral aspect.
d left clasper, dorsal aspect.



FIG. 2.

Fig. 2.—*Lopidea salicis*, male genital claspers—*a* right clasper, dorsal aspect.
b right clasper, caudal aspect.
c left clasper, ventral aspect.
d left clasper, dorsal aspect.

♂. Length 6.7 mm., width, 2.14 mm. Dark red, having more fuscous on the pronotum and scutellum than in *media*; larger and more elongate than *media*, the hemelytra always showing a strong tendency to shrivel and wrinkle longitudinally. The species may always be distinguished by the form of the male genital claspers (fig. 1); the right clasper showing a close relationship to *cuneata* and *salicis*.

♀. Length, 6.2 mm.; width, 2.08 mm. Slightly more robust than the male, otherwise very similar; the costal margins of the hemelytra frequently pale as in *media*; in certain color phases, dull orange red with fuscous.

Near Batavia, New York, the species was found breeding on elm (*Ulmus*), the nymphs feeding and maturing on the tender terminal growth, usually of young trees. At Four Mile, New York, nymphs were taken on Yarrow (*Achillea mille-*

folium) and when reared were found to be this species. This would indicate that the species has a wide range of food plants. The species was also taken in considerable numbers on *Solidago rugosa* in company with *media* where both forms were evidently breeding.

The species is named in honor of Mr. O. Heidemann, who was the first to recognize this form as an undescribed species. It is to be regretted that he never found time to publish on this and other forms that he knew.

Holotype: ♂, June 20, 1916, Batavia, New York (H. H. Knight); author's collection.

Allotype: topotypic.

Paratypes: 34 ♂ ♀ topotypic. 166 ♂ ♀ July 4-5, Four Mile; 3 ♂ 2 ♀ June 27, Honeoye Falls; ♀ June 27, Portage; ♀ July 16, Conesus Lake; ♀ June, 1911, Ithaca, all in New York and all collected by the writer. 2 ♂ 2 ♀ June 1, South Meriden, Connecticut, (H. Johnson). ♀ June 24, Bennington, Vermont, (C. W. Johnson). ♀ June 4, Westfield, New Jersey, (Wm. T. Davis). 2 ♂ ♀ June 4, Washington, and ♀ June 12, Brightwood, District of Columbia; ♀ Hensen Creek and ♂ May 24, Glen Echo, Maryland (O. Heidemann); also several other specimens in the Heidemann collection from the vicinity of Washington, D. C. 2 ♀ June, Black Mts., North Carolina (Beutenmüller). ♀ May 18, ♀ May 24, ♂ ♀ June 8, ♂ 2 ♀ June 17, Plummers Island, Maryland; ♂ May 19, Great Falls, and ♂ June 6, Mount Vernon, Virginia (W. L. McAtee). ♂ June 10, Tazewell, Virginia; ♂ Branchville to Beltsville, Maryland, (L. O. Jackson). 2 ♂ May 22, 23, Four Mile Run, Virginia; ♀ June 8, Conduit and Potomac Roads, Maryland, (A. Wetmore). ♂ May 31, Falls Church, and ♂ June 7, Great Falls, Virginia, (Nathan Banks). 2 ♂, Cleveland, Ohio.

Lopidea salicis new species. (Fig. 2.)

Closely related to *cuneata* but differs in the form of the male genital claspers and in having more orange color on the pronotum and sides of the hemelytra.

♂. Length, 5.7 mm.; width, 1.94 mm. Black, sides of the pronotum and basal angles of the disk orange colored; embolium and half of the cuneus yellowish to orange; species distinguished by the form of the male genital claspers (fig. 2).

♀. Very similar to the male in size and coloration, sometimes slightly more robust.

The species was taken by the writer only on the black willow (*Salix nigra*), and is apparently very scarce. The writer puzzled over the females for two years before the male was taken and the status of the species determined. The specimens from Honeoye Falls were taken on black willows found growing along the banks of a small stream that ran through an open pasture.

Holotype: ♂, June 27, 1916, Honeoye Falls, New York, (H. H. Knight); author's collection.

Allotype: taken with the type.

Paratypes: 2♂ 5♀, topotypic. ♀ June 30, 1914, Batavia, New York, (H. H. Knight). 2♀ June 23, 1914, Rochester Junction, New York, (M. D. Leonard).

***Lopidea davisi* new species (Fig. 3).**

Short and robust, about the size of *media* but more robust; very similar to *confluens* in coloration.

♂. Length, 5.5 mm.; width, 2.0 mm. Yellowish orange to reddish; antennae, legs, front of the head and rostrum, black; calli, base of the pronotum, scutellum, clavus, inner half of the corium and the membrane, fuscous; species distinguished by the form of the male genital claspers (fig. 3).

♀. Very similar to the male only more robust.

This species is named in honor of Mr. Wm. T. Davis, who

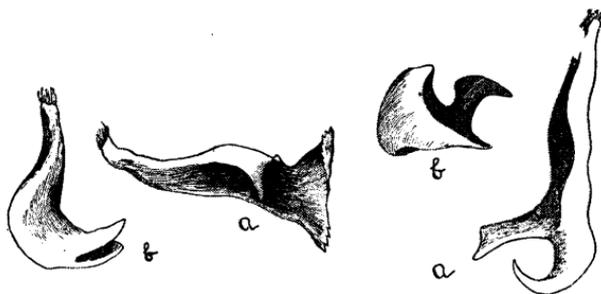


FIG. 3.

Fig. 3.—*Lopidea davisi*, male genital claspers—*a* right clasper, internal lateral aspect.
b left clasper, dorsal aspect.

FIG. 4.

Fig. 4.—*Lopidea staphyleae*, male genital claspers—*a* right clasper, dorsal aspect.
b left clasper, caudal aspect.

is noted for his wide interest in collecting, he having taken the first specimens of this species seen by the writer.

Holotype: ♂, June 20, Cabin John Run, Maryland (Wm. T. Davis); author's collection.

Allotype: topotypic.

Paratypes: ♀, Half Way Hollow Hills, Long Island, New York (Wm. T. Davis). ♂ 3 ♀ July 6, near Chevy Chase Lake, Maryland (W. L. McAtee). 2 ♂ June 20, 24, Great Falls; ♂ July 2, Glencarlyn, and ♂ ♀ July 13, 8 ♂ ♀ September 14, Falls Church, all in Virginia (Nathan Banks).

***Lopidea reuteri* new species. (Fig. 5.)**

Very close to *caesar* in size and color but differing greatly in the form of the male genital claspers (fig. 5).

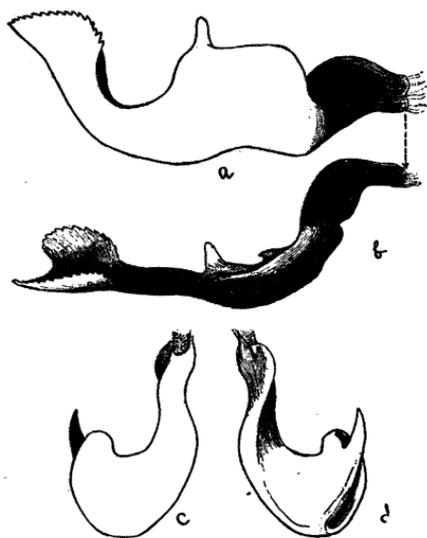


FIG. 5.

Fig. 5.—*Lopidea reuteri*, male genital claspers.
a right clasper, lateral aspect.
b right clasper, dorsal aspect.
c left clasper, ventral aspect.
d left clasper, dorsal aspect.

♂. Length, 7.1 mm.; width, 2.54 mm. Deep carmine red, fuscous on the scutellum and bordering the commissure of the hemelytra; not so broadly fuscous on the corium and cuneus as in *caesar*. Head mostly black, calli fuscous. Legs black; sternum, genital segment and usually the lower side of three adjoining segments blackish.

Antennae: segment I, length, .65 mm.; width, .17 mm.; II, 2.42 mm.; greatest width, .14 mm.; incrassate, tapering from the middle toward the apex; III, 1.60 mm., linear and slender; IV, .60 mm.; black, the first two segments clothed with prominent coarse hairs; almost identical in structure to *caesar*.

♀. Structurally and in color very similar to the male; no

antennal differences between the sexes. Very hard to distinguish from the female of *caesar*, which species usually has less fuscous shading on the scutellum.

In Missouri the species was found breeding on witch-hazel (*Hamamelis virginiana*) and probably has the same food plant in the northern localities.

Holotype: ♂, July 22, 1915, Hollister, Missouri, (H. H. Knight); author's collection.

Allotype: taken with the male.

Paratypes: 2 ♂, 18 ♀, topotypic. ♂ July 22, Ramapo (Wm. T. Davis), and ♂ July 27, Lake George (A. K. Fisher), New York. ♂ July 16, Southbridge; ♂ Aug. 3, Sharon; 2 ♂ Aug. 8, Chester; ♀ Aug. 11, Fall River; ♂ ♀ Aug. 31, Rutland; ♀ Aug. 7, Williamsburg, all in Massachusetts, (C. W. Johnson). ♂ July 10, Portland (A. E. Moss), and ♀ Aug. 10, Portland (B. H. Walden), in Connecticut. ♀ July, Hewitt, and ♀ July, Newfoundland, New Jersey (Wm. T. Davis). ♀ Sept. 6, Red Rock, Luzerne Co., Pennsylvania (Wm. T. Davis). ♂ July 25, Glencarlyn, and ♀ July 25, Pæonian Springs, Virginia (Nathan Banks).

Lopidea staphyleae new species. (Fig. 4.)

Resembling *robiniae* in general appearance but slightly larger and not so black on the dorsum; the male genital claspers distinctive of the species (fig. 4). The claspers of this species are not typical of the genus *Lopidea*, but until more work is done on the genitalia in the various genera it does not seem wise to erect new ones.

♂. Length 6.5 mm., width 2.05 mm. Orange yellow, fuscous on the calli, narrowly at the base of the pronotum, scutellum, apical two-thirds of the clavus, inner half of the corium, and membrane; antennae, tylus, two bars on the front, base of the head, rostrum, and legs, black; the fuscous shading on the dorsum much paler than in *robiniae*; genital claspers distinctive of the species (fig. 4).

Antennae: segment I, length .71 mm.; width .15 mm.; II, 2.48 mm., width .10 mm., tapering slightly smaller toward the apex; III, 1.82 mm., slender and almost linear; IV, .52 mm.

♀. Length 6.8 mm., width 2.2 mm. Similar to the male in structure and coloration, but usually slightly larger. Sometimes very similar in size and coloration to the female of *confluens*; but the length of the first antennal segment in *confluens* is shorter than the width of the vertex, while in *staphyleae* its length is as great as, or slightly longer than, the width of the vertex.

Holotype: ♂, July 29, 1916, Batavia, New York (H. H. Knight); author's collection.

Allotype: July 30, topotypic.

Paratypes: 2 ♂ 5 ♀ July 18, ♀ July 20, ♀ July 21, all reared; 12 ♂ 33 ♀ July 29, 4 ♂ 6 ♀ July 30, 1916, ♂ July 23, 1913, Batavia, New

York, all collected by the writer. ♂ July 13, ♀ July 14, ♀ July 19, 2 ♀ Aug. 9, Plummers Island, Maryland; ♂ Aug. 2, Scott's Run, Virginia (W. L. McAtee). 2 ♀ June 27, Great Falls, Virginia; ♀ June 23, ♀ July 1, High Island, (Virginia?), (Nathan Banks).

This interesting species was found breeding on the American Bladder nut (*Staphylea trifolia*) from which its name is derived. The nymphs were found feeding on the tender foliage during July, 1916, north of Batavia, New York, the first adults maturing on July 18. The nymphs are bright orange yellow with legs and antennae black, being very large and robust in the fifth instar. It was noted that many of the adults left the host plant shortly after maturing and were found congregating on nearby hickory trees where several pairs were taken in copulation.

Lopidea staphyleae var. **sanguinea** new variety.

Male genital claspers not differing from the typical *staphyleae* but the yellow color replaced by bright red; much resembling *reuteri* and *caesar*, but differing in the thickness of the antennae.

♂. Size, structure of the antennae and male genital claspers not differing noticeably from the typical *staphyleae*, but the yellow coloration replaced by bright red.

♀. Similar to the male in structure and coloration; very much resembling the females of *reuteri* and *caesar*, but the more slender form of the antennae will serve to distinguish this variety.

Holotype: ♂, July 4, Brookline, Massachusetts; author's collection.

Allotype: July 24, Mt. Carmel, Connecticut (W. E. Britton).

Paratypes: ♂, topotypic; ♀ July 14, Mt. Tom, Massachusetts.